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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,951	04/13/2004	Francis W. Daly JR.	543-99-036 CIP	5451

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EXAMINER

GUTIERREZ, ANTHONY

ART UNIT PAPER NUMBER

2857

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/823,951

Applicant(s)

DALY, FRANCIS W.

Examiner

Anthony Gutierrez

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/30/04.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it contains less than 50 words.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otsuka et al. (US Patent 5,974,360) in view of Frank (US Patent 5,615,118), further in view of Kuntman (US Patent 5,077, 558).

As to claims 1, 13, 20, 22, and 29, Otsuka et al. discloses accessing a second weather radar image generated after a first weather radar image and having a similar relationship as a first weather radar image; spatially and temporally mapping said first weather radar image onto said second weather radar image; comparing said first and second weather radar images; and forecasting information describing a weather condition represented by said first and second weather radar images (col. 1, lines 35-43 and Figs. 11, 12, and 13).

Otsuka et al. does not specifically disclose a method wherein weather radar images are generated by a weather radar resident on-board an aircraft.

Frank however, discloses a method wherein weather radar images are generated by a weather radar resident on-board an aircraft (col. 4, lines 5-21 and col.7, lines 12-22).

Otsuka et al. further indicates that the method of invention can be used in fields such as airplane operation and control (col. Lines 53-62).

The method of Frank involves airplane operation and control by providing pilots with tactical information such that the pilot may divert or take other corrective action (col. 5, lines 19-23 and col. 12, lines 15-33).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Otsuka et al. in the manner of Frank in order to provide a pilot with a highly accurate forecast of a weather image so that the pilot can better choose appropriate action based on the forecast.

Frank further discloses an onboard flight path optimization system with an onboard control display unit that includes lights, and keys for displaying data and inserting commands related to different phases of flight (modes) (col. 8, lines 38-59).

Neither reference specifically teaches generating a warning reflecting a threat to safety as a function of a flight path and a phase of flight.

Kuntman, however, discloses an airborne wind-shear detection weather radar (See Title, Figs. 1 and 2, and col. 1, line 59-col. 2, line 18) and teaches that an aircraft which traverses a microburst along a path will experience an increased headwind at the forward edge and an increased tailwind at the trailing edge which can result in a considerable loss of altitude at critical phases of flight. In the cited passages, Kuntman incorporates wind shear detection as it relates to differing phases of flight and further discloses the use of an alert related to wind shear probability detection (col. 4, lines 27-30).

It therefore would have been obvious to one of ordinary skill in the art at the time of invention to incorporate into the combination of Otsuka et al. and Frank (which is concerned with an enhanced onboard weather radar for use in an onboard aircraft flight path optimization system) with the ability to generate alerts for wind shear detection as they relate to critical phases of flight with respect to the position of an aircraft along a flight path, since taking phases of flight into consideration with respect to the position of an aircraft and to the position of turbulence along a flight path, allows a pilot the flexibility to take greater caution during a higher probability of threat to safety, while eliminating the need to change a course when a threat to safety is at a minimum.

As to claim 3, 4, and 30 Otsuka et al. further discloses wherein said second weather radar image further comprises a weather radar image generated at a time after generation of said first weather radar image and wherein said comparing said first and second weather radar images further comprises comparing said first and second weather radar images as a function of said time between generation of said weather radar images (col. 2, lines 47-54).

As to claims 5 and 23, Frank further discloses a method further comprising displaying said forecast information describing said weather condition (col. 12, lines 46-49).

As to claims 6 and 7, Frank further discloses a method wherein said forecast information further comprises information sufficiently advanced in time as to allow an appropriate response and information advanced over one of a selectable period of time and a fixed period of time (col.12, lines 56-67).

As to claims 8-12, 14, 15, 17-19, 21, 24-28, and 31-35 Frank further discloses a method wherein said forecast information further comprises information describing a track of said weather condition, accessing a flight path of the aircraft; comparing said forecast track of said weather condition with said flight path; and predicting a coincidence of said flight path and said weather condition, and generating one or more of a visual alert and an aural alert as a function of said coincidence of said flight path and said weather condition (col. 13, lines 7-15, col. 14, lines 18-29 and 55-59, and col. 15, lines 8-13 and 35-48).

As to claim 16 Otsuka et al. further discloses wherein: each of said first and second weather radar images further comprise respective first and second images

representative of said weather condition; said comparing said first and second weather radar images further comprises comparing first and second states of said weather condition; and forecasting a future state of said weather condition (col. 3, lines 55-62 and col. 4, lines 31-32 and col. 2, lines 47-54).

As to claim 36, Otsuka et al. further discloses an electronic circuit further comprising a display coupled to said processor and adapted to receive each of said weather radar image signals representative of weather information contained in said weather radar return signals and said signal representative of said future weather information, said display comprising a screen adapted to display each of said weather information contained in said weather radar return signals and said future weather information (col. 7, line 63- col. 8, line 37 and Figs. 1 and 2).

As to claim 37, Otsuka et al. further discloses an electronic circuit wherein said processor is further adapted to generate weather radar transmission signals; and further comprising: a transmitter coupled to receive said weather radar transmission signals from said processor and output said weather radar transmission signals to a radar antenna; and a receiver coupled to receive weather radar return signals from a radar antenna and output said received weather radar return signals to said processor (col. 7, line 63- col. 8, line 37 and Figs. 1 and 2).

Art Unit: 2857

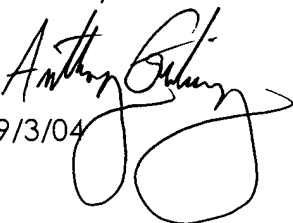
**Conclusion**


5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Gutierrez whose telephone number is (571) 272-2215. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on (571) 272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anthony Gutierrez

  
9/3/04

  
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